

AMATEUR RADIO
JUNE, 1957
AMATEUR RADIO
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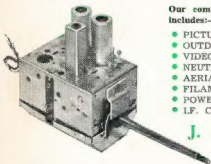
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4096 Kc.	5950 Kc.	6550 Kc.	7025 Kc.	7550 Kc.
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4205 Kc.	6000 Kc.	6575 Kc.	7032.6 Kc.	7600 Kc.
4285 Kc.	6025 Kc.	6600 Kc.	7050 Kc.	7625 Kc.
4445 Kc.	6050 Kc.	6625 Kc.	7075 Kc.	7650 Kc.
4460 Kc.	6075 Kc.	6650 Kc.	7100 Kc.	7675 Kc.
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WI BROADCASTS

All Amateurs are urged to keep these frequencies clear during, and for a period of 15 minutes after, the official Broadcasts.

VK3W: Sundays, 1100 hours EST, 7146 Kc.: 2000 hours EST, 144 Mc. No frequency checks available from VK3W. Intra-state working frequency, 7030 Kc.

VK3W: Sundays, 1130 hours EST, simultaneously on 3973 and 7146 Kc., 97.5 and 148.25 Mc. Intra-state working frequency 7139 Kc. Individual frequency checks of Amateur Stations given when VK3W is on the air.

VK4W: Sundays, 0900 hours EST, simultaneously on 3360 and 14342 Kc. 3360 Kc. channel is used from 0815 hours to 1015 hours each Sunday for the W.I.A. Country hook-up. No frequency checks available.

VK5W: Sundays, 1000 hours EAST, on 7146 Kc. Frequency checks are given by VK5MD and VK3W by arrangements on all bands to 56 Mc.

VK6W: Sundays, 0930 hours WEST, on 7146 Kc. No frequency checks available.

VK7W: Sundays, at 1000 hours EST, on 7146 Kc. and 3672 Kc. No frequency checks are available.

VK9W: Sundays, 1000 hours EST, simultaneously on 3.5, 7, 14 and 144 Mc. Individual frequency checks of Amateur Stations given when VK9W is on the air.

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EDITORIAL



FIFTY AND OVER

Just three years ago Federal Executive were able to announce that the Postmaster-General's Department had approved of the issue of a new class of licence, the Technician's Licence, based on the Limited Amateur Operator's Certificate of Proficiency. The response to the new class of Certificate was most gratifying, particularly to those who had striven so hard to secure this additional privilege. Holders of the L.O.A.C.P. have been welcomed to the ranks of the Institute and have already made contributions to our literature and to our knowledge.

In Amateur circles, however, the v.h.f. region is generally assumed to start at the 50 megacycle point and it was a matter for some concern that the new class of licensees were not allowed to operate below 144 megacycles. In technique, the 56-60 Mc. band is a good starting point for v.h.f. Methods used in that band can give a helpful introduction to v.h.f. for the Amateur who has been brought up on the h.f. bands. Altogether, it is a very useful band.

Executive was particularly pleased, therefore, to be informed that the Postmaster-General's Department had accepted the representations of the Wireless Institute that the 56-60 megacycle band should be opened to holders of a license based on the L.A.O.C.P. This practical demonstration that the Administration is willing to listen to a case based on sound reasoning gives encouragement to Federal Executive in its efforts to carry out the policy of the Institute as formulated by the Federal Council.

With the participation of the full range of "fifty and over" by L.A.O. C.P.s, as well as by A.O.C.P.s, we can expect accelerated activity in the 56-60 Mc. band with consequent further advances in technique and experience. The urgency of thoroughly testing every band for emergency purposes in varying conditions will be helped by this welcome extension of Amateur activity.

FEDERAL EXECUTIVE.

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Modifying the AR7 Receiver

PART TWO

BY G. M. BOWEN,* VK5XU

From the brief description in Part One it should be apparent to all owners that the principles embodied in the design of this receiver are standard and shouldn't deter anyone from making the following modifications.

CATHODE BIAS AND R.F. GAIN CONTROL

In order to have a receiver which can operate under a very wide range of input voltages and which will remain stable, the last ounce of gain cannot be aimed at and a 1 watt resistor (R18) was connected between h.t. and the cathode bias bus-bar. This provided anything from 15-30 volts bias for r.f. and i.f. gain control and in my AR7 it gave a minimum of 5 volts when the potentiometer (R19) was supposedly shorted out—resulting in lack of sensitivity and poor a.v.c. characteristic. Hunt out this resistor and remove it—the range of working conditions encountered in Amateur QSOs does not require a cut-off bias.

CONVERTER

If the heater chain is still on 12 volts it is necessary to choose replacement valves with 500 Ma. heaters, hence the choice of an ECH35 for the converter stage. Remove the socket and replace with a good micanol or isolantite; discard the shield and earth No. 1 pin as usual to the chassis immediately beside the pin. Rewire the socket with the heaters above earth by-passed with good mica or ceramic capacitors—value is not critical.

The oscillator grid capacitor (C14, a 100 pF.) should be silvered mica (or ceramic with a zero drift coefficient) and the grid resistor (R12) a 1 watt, 50K ceramic of very low capacitance. Each component should be rigidly mounted to ensure mechanical stability.

The screen supply and the oscillator h.t. is obtained from a dropping resistor (R13) and is by-passed with a pair of capacitors (C18). To reduce the con-

verter noise to a minimum, ensure that the group of four parallel 50K resistors is replaced with an equivalent 125K stabilised carbon resistor or group.

If the original power supply using the pair of 6X5GT valves is still intact, the h.t. supply is very stable and there is no need for a voltage regulator tube here. But it was found after the power transformer burnt out (mainly due to failures of cathode-heater insulation of the 6X5s) and another inserted and the rectifier changed to a 5V4G, that on 21 Mc. and higher, the changes in h.t. due to a.v.c. action caused the oscillator frequency to vary unduly and a v.r. tube was necessary to stabilise the h.t. at 100 volts. A VR105 will fit under the chassis quite easily.

R.F. STAGES

The above simple straight-forward alterations should improve the signal-to-noise ratio quite a bit and the next move is to provide a good hefty signal to the converter, as free of valve and component noise as possible. The AR7 has two r.f. stages from which this ideal can be achieved, believe it or not ye cynics.

Let us discuss the function of each stage as we need it to operate. First the aerial coupler, first r.f. valve stage. Here we need all the gain that it is possible to achieve so the logical choice will be a tube with a Gm well above 7,000. The RL7 or EF54 gives this with an equivalent noise figure of 700 ohms or less. It has the disadvantage of hav-

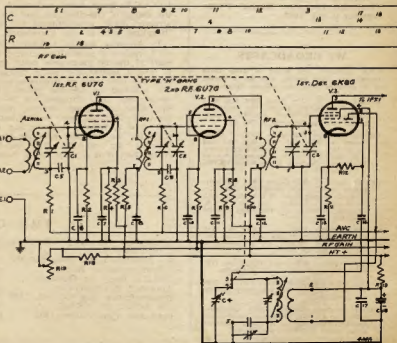
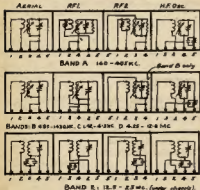
ing a sharp cut-off, but in practice this has not been found to be a handicap, except when my two next door neighbors—VK3ZY and VK5TD—start up and modulate all the signals

Remove the octal socket and replace with a micanol nine-pin local located with the grid pin nearest the coil container. Rewire heaters and by-pass the outer lead to earth as for the converter. Solder a small shield across the socket to isolate the output circuit from the input grid leads. The cathode resistor of 150 ohms—carbon 1 watt—is next wired and ceramic miniature by-pass 2,200 pF. capacitors attached to cathode and screen pins. A decoupling resistor of 1 to 2K is included in the screen lead from the h.t. bus-bar. A handy feature of this tube (like the EF50) is the 250 volt screen operating voltage. The suppressor is internally connected.

Remember that to get high gain it is necessary to have very closely spaced elements and therefore any voltage which may be applied from the transmitter accidentally will damage the tube within seconds. Therefore, include a self-bias cut-off protection by including a 100 pF. capacitor between the coil connection and the grid pin, and a 1 megohm 1 watt to earth. This circuit is a standard connection in Service equipment and as there is no a.v.c. applied to this stage now, it is a very wise precaution to take.

Drill a hole in the front panel, at the same level as the noise limiter control but on the left hand side of the

* 73 Perin Road, Toorak Gardens, S.A.



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An Effective Low-Power 144 Mc. Transmitter or Exciter

BY V. KERR,* VK4LK

IN breaking into the 144 Mc. field, one has a veritable wealth of technical material to comb for ideas and inspiration, however when it comes to actual results, these have in some of my "set-ups" not been in keeping with that claimed for them by the various writers.

While our American counterparts are very prone to the miniature twin triodes for crystal oscillator and frequency multiplying stages, I am afraid in my experience I cannot share their enthusiasm for these smaller tubes. They certainly will provide the frequency required, but not enough r.f. is available to be of much practical use for driving a tube that will generate a reasonable amount of r.f. at 144 Mc. for a final as the case may be.

The line-up in this unit is a 6AQ5 (8 Mc. xtal) and tripling to 24 Mc., a 6BJ5 tripling to 72 Mc., a 5763 doubling to 144 Mc., and a 6146 running straight on 144 Mc. Using the 6146 as per the manufacturer's recommended conditions, this unit will provide an honest 25 watts of r.f. output, and modulates well without any instability or nonsense. Naturally the r.f. feedback through the modulator is another problem and I should think one in which every case would be an individual in the matter of getting rid of it.

The unit is built on a 15" x 5" x 2 1/2" chassis with a 3" x 4" position to mount the 6146 horizontally. This partition is mounted 7" in from one end. With the exception of the split-stator or butterfly condenser used in the final plate tuning of the 6146, all other variable capacitors are 3-30 pF. Philips' concentric trimmer types.

All components and tuning circuits up to 72 Mc. are kept below the chassis.

The inductive coupling arrangement in the plate circuit of the 5763 is above the chassis and has the shield partition between it and the 6146. Pin 5 connection of the 6146 socket being so arranged the end of the inductance goes via a small ceramic bushing direct, giving the absolute minimum of lead length. The 1 watt resistors (1,000 ohm 5763 plate, and 22,000 ohm 6146 grid coil) come up through the chassis via 1/4" holes drilled in the chassis at the appropriate points. The screen dropping resistor for the 6146 is made from four 100,000 ohm 1 watt resistors in parallel. The v.h.f. chokes used in the screen of the 6146 and plate circuit are some by Eddystone, being wound on a 1/2" diameter rod with a fine gauge (approximately 28) wire, are spaced to cover about 1 1/2" of winding length.

The connections numbered 1-4-6-7-8 of the 6146 socket are brought out via separate pieces of 22 gauge tinned wire to a common tie point provided by a piece of copper strip 1/2" wide and positively soldered to the chassis as close

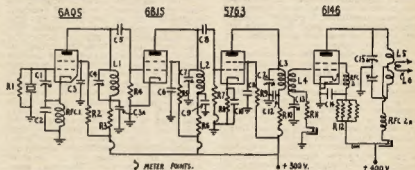
and conveniently as possible to the socket of the 6146.

One would think the shield partition would provide a sufficiently low impedance path for r.f., however on initial trial misbehaviour of the 6146 suggested this line of action.

Likewise pin 8, which is the metal ring around the base of the 6146. A single connection here was not good enough and a piece of phosphor-bronze strip was soldered to the chassis so that it applied a reasonable amount of

to operate the 6146 under modulated conditions.

In my own case the unit is used as an exciter for an 829B stage. Those who have used an 829B will appreciate it wants its share of grid drive to work effectively, and with the unit used as an exciter with 300 volts common to all stages it is possible to get 18 Ma. of grid drive on the 829B grids (unloaded); the usual 12 Ma. as recommended for the 829B is easily obtained using a link line between the 6146 and the



Approach to Conversion

BY N. BURTON,* BERS11494

MANY Amateurs influenced by glowing stories and accounts of converters decide to build one for use ahead of their receiver and after spending a considerable amount of time, trouble and money, are very disappointed with the results. This state of affairs occurs far oftener than is generally realised and results from the lack of complete appreciation of the problems involved.

There are a large number of pitfalls and we cannot do better than construct a mythical converter in order to find them. Let us therefore build a converter to cover the range 45 to 100 Mc. Such a range seems enormous at first sight, but a little thought will show the tuning range is only a ratio of 2:1 and quite normal. Our converter has to have an i.f. stage, a mixer and separate oscillator, employ ganged tuning and have a good dial. This latter should be regarded as a "sine qua non" in any event.

The next step is to decide the i.f. to be used. It is here that the first trouble arises. Many articles speak airily of using an i.f. of 7 Mc. This is chosen as a good compromise against images and preserves the good amplification needed. This being so, one plunges in recklessly whereas what one should do is to have a good listen round on the receiver to be used as the i.f. on the chosen frequency with the aerial and earth terminals strapped together to see what can be heard; in most cases it will be plenty.

Having thus found that 7 Mc. is not suitable as an i.f., it is necessary to try another; 10 Mc. is often suggested. Here again the same procedure must be followed. It is quite likely that this will be equally unsuitable.

What are we to do then? The answer is to get down to some investigation. To do this, attach a very short piece of wire, say about 12 inches long, to the aerial terminal of the receiver and starting at 7 Mc. tune slowly downwards in frequency until you come to a band of clear frequencies about 200 Kc. wide. It is suggested this be done after dark as daylight searches can lead to disappointment later.

By the time you reach such a spot you will be in the region of 3 Mc. in all probability. At this point refrain from rubbing the hands together and deciding on 3 Mc. A little reflection will show that if this frequency is chosen then it will be impossible to use a frequency standard of 100 Kc. or multiples thereof because of possible break-through. The correct thing to do is to *off-set* the proposed i.f. by 10 or 20 Kc. from 3 Mc. You are now in a position of having a satisfactory i.f.

It may be argued that 3 Mc. will allow images at spots. This is true, but the images are very few and in the rare event of them falling into the pass-band of a received signal, it is quite easy to shift the i.f. (that is the main receiver tuning) by a shade, when the signal will move one way and the image the other.

As far as the two Amateur bands in the compass of our converter are concerned, no image troubles will occur.

A point in favour of this lower i.f. is that there is ample gain available and there is no need to run the receiver used as the i.f. flat out. This results in an improved signal-to-noise ratio.

Having satisfactorily dealt with the choice of i.f., it now remains to investigate the oscillator of the receiver to be used as i.f. Many receiver oscillators are excellent low power transmitters. They should not be but they are, and this being so, the oscillator will radiate harmonics and these harmonics, if strong enough, will get into the front end of the converter and give rise to "birdies."

It is necessary here to procure by any means possible a second receiver, preferably of the det. plus i.f. type as these give excellent results and eliminate anomalies that can occur if a superhet is used. With the second receiver operational, attach again a short length of wire to the aerial terminal and switch on the receiver to be used as i.f., setting the dial to the proposed i.f. Starting at the second harmonic of the oscillator, listen progressively higher to each harmonic. The early ones will be fairly strong, but by the time you reach the 21 Mc. band they should be getting weaker and at 28 Mc. should be either inaudible or almost so. If they are not, then the i.f. receiver must have attention. This may seem hardly necessary, but I would point out that one very popular communication receiver radiates harmonics of such strength that it is almost impossible to use a converter ahead of it. The same receiver will cause, through harmonic radiation, t.v.i. at 75 yards

Should you find the i.f. receiver radiates strong harmonics steps should be taken to reduce them by reducing the plate volts on the oscillator, adding extra shielding and if necessary a trap or filter in the cathode circuit. These harmonics can be attenuated to a sufficiently low level without upsetting the operation of the receiver. Once this point is cleared the construction of the converter may be commenced.

As regards the actual construction of the converter all normal precautions should be taken and then the refinements may be included. It is advantageous to by-pass each valve at the heater pins with a 1,000 pF. condenser; excellent ceramic condensers of very small size are available. In addition the heater leads should be by-passed at point of entry to chassis. The high voltage line should be dealt with likewise and all anodes decoupled. Interstage screens between all stages are recommended and injection of the heterodyne can, with electrical and mechanical advantage, be via a 1 pF. condenser bridging the stator tags of the mixer and oscillator sections of the three-gang tuning condenser.

The anode lead of the mixer should be through shielded cable to the output i.f. transformer and the shielded cable bonded to the chassis at each end.

A supply voltage of 130 volts is ample. This will drop to about 110 volts on load assuming a valve line-up of 6AK5-6AB4-6CA. As to alignment, this presents no difficulty and can be done with no power applied by means of a g.d.o. The coils should be carefully made originally and as alike as possible with a result that tracking is easier. Tackle the oscillator first and set it to cover the range 48 to 103 Mc. or so. Next tackle the other two coils and set these to cover 45 to 100 Mc. This can be done by careful spacing of the turns. When tracking is good at both ends of the dial, check at other points. It may be found odd spots are a bit off but if the tracking as a whole is good the broadness of the circuits, inescapable on these frequencies, will compensate.

Don't forget to resonate the i.f. output transformer to the chosen i.f. The power may now be applied, but before doing so disconnect the ground end of the oscillator grid leak and connect it to chassis via a 0-1 Ma. meter. Swing the tuning condenser through the range and observe the grid current. It should be without violent fluctuations if it is not, adjust the plate supply, cathode tap, and feedback condenser. It is possible to get it very smooth over the range with obvious advantages.

Once this is done and the resistor resoldered, it is suggested that a close fitting bottom be fixed under the chassis, a metal dust cover over the three-gang tuning condenser, and a box shield over the valves. The final appearance is then of boxes fixed together. This airtight shielding in practice assists stability. The cabinet should likewise be as airtight as possible.

The unit can now be connected up to the i.f. receiver via a shielded cable and should perform like any simple well-built super, that is without birdies or whistles. As an aside, it is wise to connect the grid of the 6AK5 to the coil via a 100 ohm grid stopper as the 6AK5 needs little encouragement to take off. This can be done in the actual construction. It is not necessary to use a stabilised power pack. The writer has a converter built on lines of the above and although the power supply is unstabilised the frequency drift from switching on cold to five hours later is within the audio passband anywhere in the range 47-103 Mc. and with speech being received.

It would be as well to clear the point levelled at tuned converters that they are too prone to deliver a note not T9. If the converter is built as outlined, it will give a T9 note. If it does not, the fault is generally in the receiver used as i.f. channel. It is suggested in cases where a T9 note is not obtained that another receiver be tried as i.f., or better still, several. It will be found invariably, assuming the converter is soundly made, that it is possible to find one receiver which will give a T9 note. As to why this happens is obscure, but the passband of the i.f. seems to have some effect. The writer gets a T9 note with the receiver used as i.f., but by

* 130 The River Road, Revesby, N.S.W.

changing to another receiver the note drops to T7 or 8. The i.f. passband of the first receiver is slightly wider than that of the second.

It will not be out of place to mention here crystal controlled converters. These are held up as the acme for the Amateur. The writer does not agree. The crystal controlled converter is a valuable device, but for the home station of the Amateur it is completely unsuited. This may sound dogmatic, but a few reflections on the matter may clarify things. In the first place such converters are invariably broad-band, they cannot be otherwise, and being broad-band they are noisy. Noise can be reduced most effectively by reducing the bandwidth, to obtain this broad-band and keep it constant, it is usually necessary to stagger tune the various circuits and this reduces the gain. The oscillator is stable, naturally, being a crystal, but that crystal is oscillating at a lower, much lower, frequency than is needed for mixing and mixing is accomplished by using one of the many harmonics produced.

Now these harmonics, that is the unwanted ones, get into the front end of the converter and it is almost invariably the case that the receiver tuned as i.f. has birdies. This is not to be wondered at as on, say, 144 Mc., the receiver must tune 4 Mc. of its range. To eliminate this, recourse is had of picking the right crystal. This is not easy and even when a frequency has been chosen, it is usual for some birdie to appear. These arise, if not from the harmonic direct, as a product of the oscillator harmonic from the i.f. re-

ceiver and the crystal oscillator. It is quite clear that such a device is hardly satisfactory.

In addition to these worries there is the leak-through of signals at the tuning frequencies of the receiver used as i.f. Very few receivers are free from signals of this nature even when connected through shielded cable to the converter i.f. coil. The writer has not encountered many which possessed any degree of sensitivity; they were invariably lacking in gain. In many years of handling receivers the writer has only encountered one receiver of a high degree of sensitivity which brought in nothing when no aerial was connected.

There is no excuse for crystal controlled converters at the home station. These remarks regarding birdies apply especially to v.h.f. crystal converters. It is just as easy to make a fully tuned converter and far more satisfactory.

This idea of converters can be extended to wide limits if a little common sense is applied. Let us take to construction of an Amateur communications super with a high degree of selectivity. One may have an all-range receiver which has an i.f. of say, 1,600 Kc. The selectivity is not now good enough. To improve things here the valves in the back end can be removed from the second detector onwards leaving power available for other things. The i.f. is now tapped at the plate of the second or third i.f. stage by twisting a one-turn loop round a plate lead. This one-turn loop feeds into a Command receiver covering the range 1.5-3 Mc. This has an i.f. of 750 Kc. The i.f. of this receiver is similarly tapped and fed

into, say, a mantel radio, also with the valves in the back end removed. The 455 Kc. output from this is then fed into a BC453. Such a combination is easy of construction and providing the coupling in the BC453 is adjusted to maximum, by removing the knurled caps on the i.f. coils and pulling the thin square plastic bar made visible gently upwards to its maximum travel, is very selective.

If even greater selectivity is needed the i.f. coils of the mantel receiver can be removed, sawn in half and replaced in the can with the coils at right angles. This gives a very sharp skirt.

No trouble should be experienced on the i.f. Amateur bands with birdies from such an outfit. Many of the fixed tuned channels can be parked under the bench and such things as noise limiter, etc., placed in spots where maximum efficiency can be obtained. This means, of course, plenty of grid volts. Such a receiver may seem impossible, but there is one such working in Sydney. As no part of it has to run "flat out," it is very quiet in practice and its selectivity is beyond reproach. It can be stated with confidence that it will hold its own with any modern American communications receiver.

One concluding point about these double, triple and quadruple conversion receivers is to make sure the different i.f.s. used are not too closely related harmonically and also bear fully in mind the earlier remarks about the amplitude of the oscillator volts in the various frequency changers. It assumes great importance in multiple conversion.

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DX ACTIVITY BY VK2OL†

Two new contributors this month give a greater coverage for these notes, namely VK0AB and VK9DB, and whilst on the subject, congratulations to Doug. on his showing in the 1956 VK-ZL Contest

NEWS AND NOTES

VK6AB is able to operate on 7 to 28 Mc. and shortly he and I plan to explore 3.5 Mc.

UA0KSI is reported to be operating from Wrangel Is. on 7 Mc. (2DI).

VK2AIR will handle QSLs for W9LIL.

3WSAA is telling many contacts to QSL to VK2AIR, but as yet Alan has no cards from Phan for distribution.

W4DQA/KS4 from Swan Is. is active on Mon., Wed., and Fri. in the American phone band and is expected to be there for six months (5WO).

HH2LD is holidaying in his home land after being Haitian Ambassador to Panama. His Panama call is **HP1EH (5WQ)**.

VP5DS, Grand Turk is active on 14 and 21 Mc. (5WO).

CN2DM was previously KT1DM, but the KT prefix is no longer being used.

ACTIVITIES

8.5 Mo. SQL 3WBAA.
 7 Mo. SAIR: W*, 2AMB VKRAD. SQL: UB,
 LUUVV, EAI, EASAF. BERSING: DUTSV, KP-
 4DH, ZS8CH. Rod de Belfeur: VIELI, KV4AA,
 KHA JA. W.

14 M. B. UCKNA, LAIVC/CA, FTSTP,
 ZBZ, FBZBZ, VPSAO, SVWVR, OYIR,
 QYDML, VKUP, VKOJD, VKRAS, VKGZBZ,
 VQVGN, VQGVG, UFRAC, UDSAA, UG-
 UG, UG, UG, UG, UG, UG, UG, UG,
 UTRAK, VPCB, ZELH, FBMC, SBAJX,
 HZLHZ, VQGVG, VOJRD, SWBA, OQSR,
 CRCK, ZKZAB, PAIR IBRU/Trieste, FO-
 Grahmland, CXIBO, CXICX, SPIKA, A,
 KR888, Z88DE, ZLSAA, BKMTV, FBMY,
 HH8LD, CRK, 8889, OALF, CRCK,
 VOA, CRK, LAI, BKMTV, FBMY,
 VOI, VPLNL, CTIJS, ZBZ, HAE, CE-
 NAA, HKICD, HBHYZ, OF, EA, VKPK,
 CRCK, ZKZAB, PAIR IBRU/Trieste, FO-
 PZAP, FLJAL, ZCSDA, CXIBZ, ULTKAA,
 KQIGI, HH8LD, FB8ZZ, OQSR, CRIGA,
 CAUBA, CRCK, PAIR IBRU/Trieste, FO-
 ZKZAB, PAIR IBRU/Trieste, FO-
 Trieste, CNIDM, CMTWBS, FBMY, FG-
 YXC, HLJAB, ZDZDT, UFRAC, FBZBZ,
 ZCDA, CRCK, ZKZAB, PAIR IBRU/Trieste, FO-
 SUIC, FGZBZ, HH8LD, UGUKA, A,
 FBVY, SBAAC, UDWAB, UQZAN, SAIFB,
 SVYTC, SBAAC, SVL, SV, VPSBH, CRIGA, A,
 CRCK, ZKZAB, PAIR IBRU/Trieste, FO-
 C, ZDB8Z, VQELQ, COZGR, KCNC,
 YV, VR8Z, KVAAA, UABUKA, FB8ZZ,
 EA, BVYUS, VQGVG, VQVGO, UABUKA,
 CRCK, ZKZAB, PAIR IBRU/Trieste, FO-
 40Q, BNR, VV, VE, VSO, VPLFI, CXIBO,
 ZCZAL, UABUKA, UABUKA, FLAAB, YV,
 CRCK, ZKZAB, PAIR IBRU/Trieste, FO-
 ZCZAL, RABK, FB8BZ, FB8ZZ, IRAM,
 HH8LD, ZJZPA, CBA8Z, KZSLB, KCUBH,
 VKOAB, VKASB, VRB, XWAB, VYAS, V-

[illegible]

† Frank T. Hine, 30 Abbotsford Road, Homebush, N.S.W.

* Call signs and prefixes worked.
x—zero time—G.M.T.

31 Me. C.W.: 2AMB SM5+, PA*, OK*, OH*,
HB*, HASAM, CREAL ?QL: ZF3JO*, JZ0PC*,
ZEUJ*, COEDB*, 3W8AA*, UBS* 954CM*,
VQ3GW*, ZSUU*, UD*DD, KLWIG UAU SP,
G 4X6HC, OA4BP, ZLSAA, VQ6LQ, HCIFG,
GD3FXN, ?YL OH*, LA*, SM*, VSI*, DL*,
GM*, EI*, HASAM*, F*, OZ*, VE*, W* 8BY*,
JZ3PC*, P1JAZ*, 3HR, VQ3GW*, 9DU KV

BDQ. KV4BI. YAIAM. DL. HB. V. OK.
 SI MC. A.M. 2AMR. PA. SM. G. 5WO
 JZOPB. W. G. I. LXIDC. 9DB. JZOPB.
 ZSSMP. CMBAI. VP2GM. GM. OKSI.
 W. V. VF. FR8ZZ. LASYE. GCFq. ONY.
 UR3AM. KP4AD. HB. SM. 2BIZ.
 DL. KA. GM. OK. GD6IA. HB. SM. 2BIZ.
 4X4RK. VU3BK. 4SYL. XZ3OM. VSL. V9AJZ.
 KW9CA. ZK1AU. FURAD. F08AJ. JZOPC.
 TIRL. VP9L. VPJEE. HR2MC. C0R0S. V4ABB
 ZP5CF and on s.s.b. V56BE. DL4BU. G3PXL
 and W

DE ME CW.; 2QL VUHRM*, JA*, KH0*,
VS1*, 3W8AA*, VQG GW*, K6* (0718z), ZS*,
ZASAP, OQSIE, OQSHU. 2YL. W*, G*, OZ*
RDE: W*

2B 8C A.M 2VL W. G. OZ. 4XJ W.
VE. ZS8AIZ. ZS8AQ. ZS8UN. ZS8QR.
ZS8LP. ZEJVV. VQSGC. G. DL. VPNT.
CRDTS. aWO CRAK. ZS8ZK. ZEJZN.
ZS8AJO. ZS4OV. ZS8LP. CRAU. ON.
VUBZK. GM. W. 5DW G. OH. VSI.
VE. W. ZS4. KR6. 8DB: W. VE. G. 8M.
Rad de Belfour. HKSR. THEV. YNHF. 2M.
EAF. KR6AQ. 48TSW. VUBZK. VQGER. ZC.

OTHER OF INTEREST

ZDSDT--Box 88, Zombi.
CN2DM--American Legation, Tangier
FG7XC--Airport, Guadelope
UOSAA--Box 27, Stalino, Ukraine
HISEC--Barahona, Dominican Republic (SWO).
VP6DS--Route 1, Box 112, Eau Gallie, Florida.
(SWO.)

[illegible]

Adding to my comment last month on "swishing" and commercial interference on 21 Mc., there was plenty early in the month. A signal somewhat like that used by Russians for jamming was there for a few days and so rich in harmonics that a T1 signal covered the band every 10 Mc. An 89 signal, both here and in the U.S., was continually going across the band.

TRADE REVIEW

**AUTOPLEX SEMI-AUTOMATIC
MORSE KEY**

We have been given the opportunity of testing the locally made Autoplex Semi-Automatic Morse Key. The key is very well engineered, mounted on a good heavy base, and beautifully finished. There are two weights and with suitable adjustment, a wide range of speeds is available.

Those who have tried the key are very impressed with the performance, finding it compares favourably with other semi-automatic keys.

It is available in black or chrome finish, either of which is most attractive.

Models for left-hand operation will be available at a slight increase in price.

Our test model was supplied by the manufacturer, J. Vaile, 3 Leslie Court, Burwood, E.13. Victoria, to whom enquiries should be addressed.

My thanks to VK8AB, who will now have more time on the band than previously. TACK (QSPZ ZD), who said never previously one of those LU-Z stations. IAB, who has now changed QTH and not yet back on the air. IAMB, 2YL, 4XJ who reports 10 mhz a little quiet. SRK, (QSPZ SHY, SDW, SHI, SHR, SWO who also comments how quiet 10 mhz is over his way. SDE who has the golf bug to the detriment of his DXing. SERS196 who makes time to let this page know what he hears, and finally Rod de Malfleur

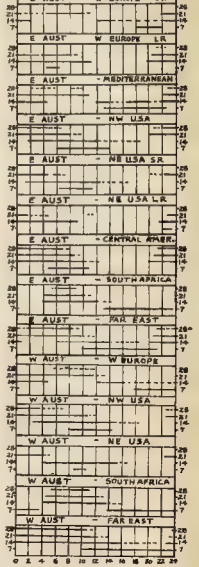
Finally, a number of our contributors only list the DX they work. What about the ones that got away boys? We are interested in them too.

PREDICTION CHART, JUNE, 1957

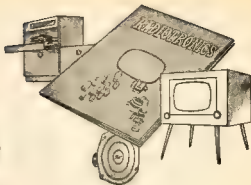
For the information of readers interested in predictions for the 58 Mc band, the Prediction Service supplied a chart with 45 Mc. included. As there were no indications this month of an opening on 45 Mc., this frequency has not been included in the chart shown below.

LONG-TERM PREDICTIONS FOR JUNE 1957

0 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42 44 46 48 50 52 54 56 58 60 62 64 66 68 70 72 74 76 78 80 82 84 86 88 90 92 94 96 98 100



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L.A.O.C.P. OPERATORS ON 56-60 Mc.

Federal Executive was pleased to announce towards the end of April that following representations to the Amateur Administration, holders of the Amateur Operators Limited Certificate of Proficiency would be permitted to conduct radio telephony experiments on the 56-60 Mc. band in addition to operation on authorised frequencies of 144 Mc. and above.

It is believed that the release of this band for L.A.O.C.P. operators will be most advantageous in regard to the collecting of data in a portion of the spectrum so promising with possibilities.

56 AND 144 Mc. TRANSMISSIONS FROM ANTARCTICA

Information has been received that VK0AA, of Macquarie Island, is making test transmissions on 56.64 Mc. each night at 2000 to 2030 hours E.S.T. Transmissions are automatically keyed c.w.

He is also preparing to make regular transmissions of a similar nature on the 2 mx band and hopes, within a few weeks, to be transmitting every night at 2100 to 2130 hours E.S.T. on a frequency of 144.36 Mc.

VK0AA indicates that he is not able to maintain regular listening watches, but will do so if his signals are received here. Please forward any reports of reception of these transmissions

to the Editor "Amateur Radio." Also keep a watch for the Macquarie Island boys on the 20 mx band.

TRANS-PACIFIC 56 Mc. TRANSMISSIONS

C.w. transmissions take place each Sunday morning from 50.6 to 50.1 Mc. by American stations. There are often up to six stations operating, the two main ones being K6RNG and K6SDX. The times of transmission are:

0905 to 0910 E.A.S.T.	1005 to 1010 E.A.S.T.
0935 to 0940 "	1035 to 1040 "
0955 to 1010 "	1105 to 1110 "
0955 to 0940 "	

The Americans look for phone replies on 10 metres from:

0915 to 0920 E.A.S.T.	1015 to 1020 E.A.S.T.
0945 to 0950 "	1045 to 1050 "
0915 to 0920 "	1115 to 1120 "
0915 to 0950 "	

The following Hawaiian stations will also be operating daily from 06 to 1300 E.A.S.T.:

0600 G.M.T., in the 180 KHz of the 56 Mc. band: KHSCCZ, KHGNS, KHPPF and KHVBS. KHSCCZ will call CQ Australia on 5 metres.

NEW SOUTH WALES

At the May meeting of the V.H.F. and T.V. Group held at the Gore Hill Technical College a most interesting and instructive lecture on "Modulation" was very well presented by Mr. A. Goldthorpe who held the audience with very close attention and his advice, particularly during question time, were extremely appreciated by all present. It is hoped that at some future date Mr. Goldthorpe will again find it convenient to place another knot in his tie to remind him to look in his coat pocket for a memo which will advise him of our meeting nights, and come along and lecture to us again. John 2ANF, on behalf of the Group, moved a vote of thanks and appreciation to the lecturer for his splendid effort which was unanimously carried in the usual way.

Results of the 3 mx Field Day were given to the meeting by Horrie 3HL, who said that

40 stations had taken part and that he had received 17 logs of which 7 were portable, 7 country, and 3 home. The outright winner for the portable section was John 2ANF with 232 points, followed by 2HIO 249 points, 2ZBD 201 points, Stations 2JBR, 2VH and 2VU were second, third, and fourth, respectively, for the country section. The home station section was won by Phil 2ER, placegetter being second 2ZAD, and third 3AT. As there were only two logs returned for the D/F Field Day, the contest manager 3HL, declared the event as "no contest."

President Percy 2APQ told of his visit to VK3 and said he was made very welcome. He gave VK3 an outline of the way the VK3 conduct their Group and how they run their contests. During his visit he worked several VK3s with the walkie-talkie 2 mx gear which he took with him.

The Canberra V.H.F. Group gave a very warm welcome to VK3 2ER, 2VL and 2APM during the Easter holidays. Vic 2VL gave a lecture to the Group on the construction and adjustment of a xtal locked converter and a grid dip oscillator and exhibited his own equipment for inspection. Eric 2APM demonstrated his own mobile equipment and displayed and operated a portable transmitter complete with halo and tone oscillator which was lent for the occasion by Bob 2OA. Ken 3AIL presented an excellent programme and Stan 1AR5 is the only VK1 at present active on 2 mx. All club members, and there are several, are very keen to get going and most will have beams directed on Sydney.

The progressive hide and seek fox-hunt held on 5th May resulted in two finds by Bob 2OA, two finds by Jim 2ZBD and one find by John 2ANF. After the event Jim introduced the other winners and Phil 2ER, Eric 2APM, to his good 2XVL who provided an excellent afternoon tea. BOA's daughter navigator Rosemary, was also present. After an inspection of Jim's shack the parties left for home after a very enjoyable day in excellent weather.

A Surprise Scramble, held on 28th April, was won by Phil 2ER, followed by John 2ANF and Ken 2AKK, third place being held by Bob 2OA and John 2EAY.

2AWZ will be fox for hidden tx hunt on night of 28th May, and a Treasure Hunt is set down for 8th June. 2ZBD will be the fox!—2APM.

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VICTORIA

From this issue of the magazine, [redacted] Rankin (SZAQ) is the new scribe for the w.h.f. notes. Due to pressure of other work, [redacted] Monitor has had to resign. [redacted] Hence the change. For the past few years [redacted] has been doing a terrific job, writing various notes for the magazine, and I only hope that I can do as good a job as she did. I'll do my best but I need you, the reader, to help me with suitable information. No information, no notes.

ZB Mc... the allocation of this band to the
 Z boys caught us off guard and so the activity
 on the band hasn't increased yet. It soon
 will though if the talk going on on 144 and
 the Mc... is any thing like the talk
 the Mc... are now selling on the band were
 3/37P and Jock ZGZG. They worked Lance
 34H1, at midnight on May 1 and Eric 3K3K
 3/37P... mins later... on the band
 they used an Mc... tal on its 7th overtones
 and ran about 3 watts input to a QV04/7.
 The rx was the main station set with the normal
 Mc... and the Mc... was the main
 keenness for you and fine work. Ian and Jock
 At this QTH everything went wrong—both the
 rx and tx developed birdies and are quite use-
 less. The rx was hastily erected at Yag
 hasn't fallen down—yet.

144 Mc.—As mentioned over SWI recently the Ballarat gang are grouping themselves together in the spectrum 145.00-145.30 Mc. The idea is to keep the Ballarat signals well away from most of the Melbourne signals. All the active Ballarat stations are close together and mutual interference can become very severe. The change over will have taken place by the time these notes appear in print and so in future look on the following frequencies for the Ballarat gang (SEF please note):

145.00 Mc.	3BE	145.12 Mc	3GM
145.02 "	3ZCF	145.14 "	3ZDM
145.04 "	3ZBS	145.16 "	3PO
145.06 "	3ZCN	145.18 "	"
145.08 "	3AMH/KW	145.20 "	"
145.10 "	3ZL		

* Reserved for new calls

The Melbourne gang are asked to co-operate by keeping the above frequencies clear and also when working on the band to tune up to the new frequencies and give the Ballars boys some contacts.

From Ian SALT comes the information that there will be a meteor scatter peak in August. Ian is quite interested in meteor scatter propagation and would like to hear from anybody particularly in VK3, who would be interested enough to carry out some tests. The best way to contact Ian would be either on the air or by mail.

THE ME.--Bert SAAP has been heard back on the band. Welcome back Bert, hope to work you soon and get a report from someone with a xtal locked converter. There are a number of s.w.'s on this band now and one of them, Garth Jenkinson, of Brighton, has for the last L.A.O.C.P. exam. He has high hopes of passing and is getting some gear ready in anticipation.

Geoff JAUX has moved to a new QTH at Esher, but the change seems to have had an adverse effect on the radio gear. He cannot work anybody on 875 or 280 Mc. and has had to come down to 144 Mc. However Geoff promises that this state of affairs won't last long.

776 Mc.—Mac ZGO and Bert ZAAF are known to have been active on this band lately. Ever ZEDI has a rush-box going on the band but complains of the complete absence of signals. He is trying to persuade Les ZECN to get some gear together and so this band may get some use soon although proposed 86 Mc. operation may usurp any good intentions held for 876 Mc.

V. h. Meeting.—The April meeting was the annual city-country get-together and judging from the turn up this event seems quite popular. Of the 41 present, about 16 were from the country and of these 10 must have come down from Ballarat. Bill JAMH came down from Bendigo. However the best DOK was Perc ZAPC from some place called Sydney—I believe it is some 500 miles N.W. of Melbourne.

Some equipment on display was described by the owners. Graeme ZIAA had a capacity measuring bridge. Evan ZAAP a home-brew t.v. set with a 17 inch screen, Ian ZALE a home-brew generator and trough line front end with a code 8AJ4s, and Perc ZAPQ a nice 2 mtr rig operated entirely from dry batteries. It uses a pair of 3ABs in the tx and on transmit the whole device only sucks 0.2w. from the batteries—some QRP. A 5 inch t.v. set by Ray Price was also on display.

Weather conditions were cool for the Field Day and fewer stations than usual were out. However some good scores were made by the portables. Results: 1st, 3ZCZ, portable Mt. Dainlyong, 2172 points, including 279 bonus points for first and second longest distances on 144 Mc. (3ZAM and 3ZCG); 2nd, 3ZAI, portable Mt. Macedon 1615 pts. including 218 bonus pts. for first, second and third longest distances on 138 Mc. and for third longest distance on 144 Mc. (3ZAG, 3ZAZ, 3ALZ; 144-3AJK); 3rd, 3ZAD, portable Mt. Donna Peak, 1350 points.

The No. 2 Fox Hunt for 1987 proved to be most entertaining for all participants. Even the fox, Tom JAGG, found the antics of the hound cars most amusing, especially at the strith location which was in wooded parklands close to the strith. The strith was a very close call for the fox car at high speed and failed to notice that it was only 10 ft. to starboard. The route traversed Noddy Measure, Pockley, Marlborough, Keston and the strith. At one stage SYR thought the fox car was about to enter his shack door. The final location was the strith where the fox was shot. XVI, Kath, thought the strith was his best. The fox was shot by the strith and was the most welcome. After a ragwether with our visitors, which included Lee Buse, WITTS and the strith, the fox was shot by the strith. ZEDF (Newcastle), the results were announced as follows: 1st, Ray Price; 2nd, Ray, Ray; 3rd, Lee Buse. A very convincing win, Ray.

Don't forget the next hunt chaps. Our old friend, Eric JADU, is to be the fox and judging from his efforts in hiding the 80 mx tx in the past we can be sure that he will pull something good out of the hat.

ENVIRONMENTAL MONITORING

Now Bill and Jack JO picked the ambitious Moscovitz Boggs Creek as their venue to set up the gear for the April 2 max D.V. Hunt. What with the mosquitoes and several inquisitive small boys, the gear was set up in rather a hurry and did not perform as well as it should have done. As time went by fears of a rain storm that might wash the gear away were by courtesy of Lou and Jack, so it was with great relief that they took time off from killing mosquitoes and chasing small boys to get each other on the back as the sound of tone coming from a car came drifting up the road. John was the first to get up. A HAZE was the arrival—time 56 minutes. A HAZY retreat was made back to 41° for supper.

With the reported prospective rise in the m.a.f. hopes of working an 146 Mhz across the Iron Curtain between VK3 and VK4 have once again risen. Don 4ZAF at Warwick is very active and would welcome any test with Northern N.B.W. stations. He expects to have a new 1000 watt power tube which will raise his 15 a1. phased array quite a bit higher. Our rare DX station, Arch 4CB, at Maryborough, has not been very active since he had to take his phased array down from the tower to make room for a massive V. arial. The 4 a1. yagi at present doing duty on 5 mhz makes the going very tough.

Several major operations in shack construction are under way. Mick AZEAA, at Sandgate, is at last moving from his temporary shack to his new bedroom, down to his new quarters built by the DCA. The AZEAA shack is a console type of arrangement with all sorts of pads to make operating easier and easier. The AZEAA shack is a very nice piece of equipment, particularly now that the 8 m² band has been made available to the limited number of stations in the band. The air, however, must be made with due caution. The suggestions have been made to record such statements. Thus when the program on a stated date, the station should be able to record its grid dip after all, it's only 18 months and some 20th we heard about some time back, the station of re-play should create great activity.

The May TX Hunt proved that John AFP and Alan ZAG are just as good at hiding the gear as finding it. The location was a honey only slightly over half a mile strilene from the favoured starting point, but across the river, which meant a long trip around to get at it. The gear was hidden in a hole in the bank, smuggled down close to the river bank, and the signal from the back of the beam, reflected and shielded by the large iron roofs of the heavy bridge. The signal appeared to come from where the last start was. However, Jim 60B and Bill ZAG found the gear in 35 minutes, which was a good effort. Second crew in were Crew ZAG with Jim AFP. Gaffer J. J. Black concluded another excellent hunt.

SOUTH AUSTRALIA

Now that the 50-60 Mc. band has been released to the Z boys, those of us who have 50 Mc. gear and have not used it because of "no sigs." can now expect a reply to a "CQ 5 nuc" call, in somewhat the same way that a "CQ Z" is now mostly answered.

Neil SZAB and John SZBA have both done a sterling job for the Division on the 3 mile link for the Exhibition, and perhaps only those who have sat beside a rx for hours on end can appreciate what it means. The running around those two did to set gear up and make best use of the site available and so on, was no small task.

There has been further work by those enthusiasts, Keith SMT, Col SRO and Bill SZAX from Mount Lofty, where they spent two nights in the last month, with some success into VKs on 2 m. just how much and who, I cannot report for the whole of my gear including rx's is in moth balls for at least a month due to house renovations. But they are still hard at it and getting some results for their efforts.

Col SMO has a yaqi 80 ft. high on 2 mx and it put his signal up among the tops at 25 miles. I demonstrated again that clear get-away link is essential for distant (?) v.h.f. Keith SMT is going ahead with his t.v. rx, more details some day Keith please. George GBE continues to do well for instance heard him and Reg. SGT with Reg transmitting on 30 and receiving on 30 and relaying on 1 to Reg with the latter using a 1 mx talk-back to Geo. I worked well, too. Presume they were trying out something for a v.h.f. link, but apparently it did not get used for the Exhibition for heave nothing at all. I am being used there. George is being jammed in too late and now puts in an f.b. id. bars.

Nail SZAW spent an evening with Claude SCHI recently, so let's hope the seeds were sown for greater attempts to break through to the Gamblers. Claude has completed his new final on a 5299. Wally SPEER is becoming enthusiastic on a 5299. David SZAW has 160w. to the final, and Leo BAK also active and with a new modulator all make a good team to fire to the North and surely break through some time. Claude is using a new long yagi which he prides very much, that may help bridge the gap.

Get on to 50 Mc fellows, and make the appointments, then you know, for if you can work VK3s and VK7s on suitable occasions surely this far is not impossible.—GEF

WESTERN AUSTRALIA

Owing to a misunderstanding VKS note have been missing from "A.R."—this will be remedied from now on. Phil SZAW has worked Perth from Northern (80 miles) using a pair of CVs in the final, but alas, Phil has now departed east, so we have lost a good country station.

Fox Hunts have been a monthly feature of V.H.I. Group activities. The last one faking was GBO. Rolo's idea was to pick a spot that would allow us to find the fox. Seven out of nine cars were sent to the spot. The first GCAY was first home for a change, but when we did we found the fox hidden near the power lines dump, along side the Swan River. After feeding the fox, we saw him go back to his signs were up and down—the fox! Support was held at Rolo's QTH, after which the foxes were taken to fight with another idea in mind. To place the foxes in a more open area for order of finding it, passengers carried rifles travelled and valves in rx's, etc., some being plus and some minus. Frank GCC was the first to get the fox. He had a fox in his valve super-regen, as against 10 valve rx's.

Tests by SBO, SZAY and SBE with SWG in Albany over 250 miles, since early January have been carried out every morning and sign have been out only on two occasions. Jack SOB has been active again on two after a long absence, also Roger GRK.

A V.H.t. group meeting was held at Nolo's (SBO) QTH on Saturday evening, 13th April. The attendance was good considering a few members have contracted YL trouble—must be hard to get leave passes, hi! Those present enjoyed a nice film evening after all the Group business had been disposed of. Supper followed and all members departed for home after a very late but enjoyable night.

5AF, the Marine Air Force Club station, has hit the breeze with quite a nice signal from 222 and has worked 5BO, 6ZAV and 6BK. Cecil 6ZAV, at Wagon, came to life on 27th April at 0730 hours to work Rolo 5BO and Dorn 6ZAV, 5/6 over the 150 mile path.

In order to encourage activity on 222 Mac has been decided to hold a fox hunt on that frequency so get cracking chaps on those receivers—6ZAV.

BOOK REVIEW

THE RADIO AMATEUR'S HANDBOOK

The 1957 issue of the Radio Amateur's Handbook has just come to hand. For many years now this book has been recognised as the standard handbook of Amateur practice. This book follows the usual A.R.R.L. practice of yearly revision to keep it to the forefront of Amateur practice.

Numerous changes have been made, but one of the most striking is the change of layout of tube data. The receiving tube section has been revised to enable quicker reference to operating data. The transmitting tube section has also been revised, many of the older types having been eliminated. All other sections have been enlarged and revised

so that equipment described is the most modern and efficient of its type. The most comprehensive catalogue section again provides most interesting reading.

All in all, this is a book we can thoroughly recommend to all interested in radio and electronics. Price in Australia—44/3.

WATCH FOR 1957 ISSUE

AUSTRALIAN RADIO AMATEUR

CALL BOOK

JUNE 1957



AVAILABLE MID-JUNE

TAHITI-NUI CERTIFICATE

The Tahiti-Nui is really the Kon Tiki in reverse in so far as the expedition is on a raft and intends sailing from Tahiti to Chile (following the southern route) and then back to Tahiti by the northern route. The raft is constructed of bamboo and is approximately 56 feet by 18 feet in size. Among the crew is FOAP who will operate FO4AP/MM during the trip.

Special certificates in several colours have been prepared to enable those interested to follow the course of the raft, to plot positions when QSOs were made or when the station was heard. These certificates will also serve as confirmation of QSO or report as when the raft reaches South America, holders will be advised by world-wide advertising, to post their certificates to the address indicated. The signatures, etc., of the raft crew will be appended.

To the Amateur making the most QSOs (allowing one per day only) there will be presented an autographed copy of the book to be written by Eric de Blasche, the leader of the expedition. Each certificate issued will be numbered according to the country of origin. These may be obtained from Jack White, ZL2GX at a cost of ten shillings each (N.Z.).

Operating schedule of FO4AP/MM—
1850 and 1930 G.M.T., 7015 and 14105 Kc., c.w.
0150 till 0200 G.M.T., 14135 and 21042 Kc., c.w.
0830 till 0715 G.M.T., 14163 and 21042 Kc., c.w.

Other frequencies 7070, 7030, 14333, 14043, and 21132 Kc. Power: 1½ watts. Operator Michel Bruu.

The route already traversed by the raft has already confounded some of the critics by drifting from west to east on the west wind drift.

These certificates are not restricted to Amateurs and are of such a nature that any interested persons may procure them. Already some have gone out to schools who are using them as a basis for a project.

—Jack White, ZL2GX.

ERRATA

The author has advised of a mistake which appeared in his article, "Type 3 Mk. II Receiver," p. 8 of last issue. The condenser C8C is wired to tag 3, not to tag 4 as stated. The condenser wired to tag 4 is an 0.0001 μF. by-pass. This oversight was pointed out by Alan VK3AMD, who said that the Ducon miniature potentiometer used for the volume control will fit below the chassis deck to the right of the phone tag. In the author's set a hole had already been drilled to install a stand-by switch in the h.t. plus lead.

In the paragraph headed "Reports of Long-Distance T.V. Reception Requested" on page 12 of the May issue, the address to which reports are requested is incorrect. Correct address is as follows: Mr. Norman Burton, 130 The River Road, Revesby, N.S.W.

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FEDERAL, QSL, and DIVISIONAL NOTES

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Fed. Secretary: L. D. Bowle, VK2DU, Box 2611W, G.P.O., Melbourne, C.I. Vic

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North: South Wales, Don Pollard, VK1ASW.
Victoria: Dave Wardlaw, VK1ADW.
Queensland: Paul Dubois, VK1AUJ.
South Australia: Gordon Brown, VK3XU.
Western Australia: Ron Egan, VK6KXW.
Tasmania: Doug Fisher, VK7AB.
Papua-New Guinea: Doug Lloyd, VK6QO.

Fed Contest Committee: Reg Harris, VK8RR.
Fed. Secretaries: G. P. O. Adelaide, S.A.
QSL Bureau: R. E. Jones, VK8RI, 23 Landale Street, Box Hill, E.I. Vic.

Awards Manager: A. G. Weynton, VK3KU.
3 York Street, Bonbeach, Vic.

NEW SOUTH WALES

President: Jim Corbin, VK1YC.
Correspondence Secretary: H. King, VK3ASU.
10 St. Pauls Road, Balgowlah, N.S.W.

Meeting Night: Fourth Friday of each month at Science House, Gloucester Street, Sydney.

QSL Bureau: J. B. Corbin, VK3YC, Box 1734, 21-23 Sydney Inwards, NSW.

Zone Correspondents: North Coast and Tablelands: Noel Hanson, VK2AHN, Ryan Ave., East Kew, Vic.

South Coast: L. A. Simpson, VK2AE, 30-32A, 18 Kabinah Rd., Highfields, via Adamstown; Coalfields and Lakes: H. Hawkins, VK2YL, 8 Cornhill Ave., Camstock, Western W. Suburbs, NSW.

Central: A. Fisher, VK1DY, 9 Oxley St., Warragunga, Sth. Western; J. W. S. Edge, VK2ACJ, Wallara, Coomamon; Tamworth: F. W. Fowler, VK3AFP, 4 Thompson Cres., Tamworth.

FEDERAL

SUCCESSFUL AMATEUR CANDIDATES

The following is a list of candidates who were successful and have been issued by the Amateur Operator's Certificate and Amateur Operator's Limited Certificate held on 28th January, 1967:

New South Wales
S. Fairbairn, 9 Lennon Pde., Newcastle.
G. Pez, 8 Farnsworth St., Thornton.
L. W. Burgess, C/o Telephone Exchange, Newcastle.

S. S. Latham, 160 Hunter St., Glen Innes.
E. M. Smyth, 41 Ordinance Ave., Lithgow.
J. McQuay, 418 Smith St., Albury.

D. K. Sledge, Monoval, Mullumbidgee.
K. L. King, Mornington Falls Rd., Wentworth Falls.

J. G. Virtue, Denger St., Pilliga, 6W.
W. O. Hill, 18 Morgan St., Peterborough.
B. B. Chorley, 155 Atchison St., Crows Nest.

D. M. Tait, 14 Barbe St., Albury.
M. T. Morell, "Araluen", Nyngan.

P. J. Deltmann, 45 Nutton St., Kyneton.
B. S. Baugh, "Murrumbidgee", Hawkesdale.
M. P. Spiller, 48 Malling Rd., Canterbury.

G. W. Wootton, 10 Wootton St., Murrumbidgee.
R. E. Hely, 15 Sharp St., Northcote.
G. W. Bely, 79 Bealiba Rd., Caulfield.

Queensland
A. M. Miers, 4 Bellevue St., West Bundaberg.
J. L. Smith, 3 Lemon St., Bundaberg.

T. P. Power, 101 Wills Regt., Caberhat Barracks, Caberhat.
C. T. Moore, 45 Minnime St., Stafford.
R. Collins, 150 Ashgrove Ave., Ashgrove.

D. R. Morgan, Park Rd., Yeerongilly.

South Australia
G. P. Bowen, 73 Portrush Rd., Toorak Gardens.
A. L. Hudd, 8 Livingstone Ave., Prospect.
F. Lashmar, 48 Malling Rd., Canterbury.

C. R. Grivell, 18 Silver St., Clearview.
M. R. Haskard, 3 Te Anau Ave., Prospect.
R. E. Hely, 15 Sharp St., Northcote.

G. G. Luke, 18 Kennaway St., Tumworth.
G. E. Stallard, 27 White Ave., Lockleys.

Western Australia
R. R. Hopper, 64 Railway Terrace, Mt. Lawley.
G. R. Webster, 113 Wellington St., Mosman Park.

S. D. Pota, 21 Alvan St., Mt. Lawley.

The above list does not include candidates who, although they qualified in the examination for all certificates, failed in the subjects for a limited certificate. Such candidates are issued with a limited certificate on application.

VICTORIA

President: F. G. Hall, VK3YS.
Secretary: J. R. Lancaster, VK3UL.

Administrative Secretary: Mrs. May. C.O.R. House, 181 Queen St., Melbourne.

Meeting Night: First Wednesday of each month at the Radio School, Royal Melbourne Technical College.

Divisional Sub-Editor: V. M. Jones, VK3YE, 7 New St., Surrey Hills, E.Ib.

QSL Bureau: Inwards and Outwards—W.I.A., 129 Queen St., Melbourne, C.I. Vic.

Zone Correspondents: North: J. Kinless, VK3AKW, Magdala, Launceston; South: West: W. Wines, 48 Cranley St., Warrnambool, and W. Zimmer, VK3AWZ, 70 Skene St., Newtown.

Far North: Western: M. Poole, VK3JG, 101 Lemon Ave., Mildura; Midlands: R. Jones, VK3ND, Farnworth St., Castlemaine.

North Eastern: L. Moe, VK3ALE, 71 Orr St., Shepparton; Eastern: J. Spark, VK3AJX, 30 Marshall Ave., Moe.

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President: Frank Bond, VK4ZM.

Secretary: W. J. Rafter, VK4PR, Box 683, G.P.O., Brisbane.

Meeting Night: Fourth Friday in each month at the State Service Union Rooms, Elizabeth Street, Brisbane.

Zone Correspondents: A. Simpson, VK4ZAE, 30-32A, 18 Kabinah Rd., Highfields, via Adamstown; Coalfields and Lakes: H. Hawkins, VK2YL, 8 Cornhill Ave., Camstock, Western W. Suburbs, NSW.

Central: A. Fisher, VK1DY, 9 Oxley St., Warragunga, Sth. Western; J. W. S. Edge, VK2ACJ, Wallara, Coomamon; Tamworth: F. W. Fowler, VK3AFP, 4 Thompson Cres., Tamworth.

QSL Bureau: Inwards—J. Flics, VK4JF, Evenden Park; Outwards—Miss Clair O'Brien, 93 Jardine St., Stafford.

Zone Correspondents: Maryborough: R. J. Glass, VK4BS, 40 North St., Maryborough; Townsville: R. K. Wilson, VK4RW, Hogan St., Stuart, Townsville.

NEW SOUTH WALES

1967 URUNGA CONVENTION

The above Convention is now over and no doubt many have had a most enjoyable time by those who attended. A few of our regulars were absent due to other commitments, but this was offset by the appearance of quite a few new faces. For the year in succession our 3ALQ made the journey to be at Urunga, so it seems to me that our Convention has "come home".

The total attendance, in addition to many harmonics, was 54 and consisted of 28 Amateurs, 8 Associates, 14 XYLs and 3 visitors. 1000 people came to the Convention and there and see how many of the fellows you've often wanted to meet were present. Perhaps next year you could tie up a "kink" to meet your mates at Urunga and find out whether they are big or little blokes.

The fellows you missed meeting were: Sid 3APS and family, John 4FP, Jas. 4PR, Orie 4TR, Paul 4VS, Fred Reid (Assoc.), Brian Clarke (Assoc.), Dave 3AYE, Ron 1PM, Alan 2PH and family, Ray James (Assoc.), Bob Bailey (Assoc.), Alan Bailey, Webb 2AGI and Mrs. Cooper, Bill 2ARY and family, Major 2RU and Mrs. Collett, Terry 2IS, George 4GG, Jack 2ADT and family, Chas 2ARV and Kevin, Joe Pennington, Ken 2EV, Bill 2AV, Ron 2ACU and family, Harold 2AHJ, Bill 2XT, Norm 2AHH and family, Norm Dash (Assoc.), John Moody (Assoc.), John 2EV, Ron 2AHH, Tooby, Cliff 2XO and family, Hart 2JC, Jack 2FK, Harry Miller (Assoc.) and Mrs. Miller, Ken 2ALL and Don Lewis. Geoff 2SR and family, Jack 2ADN and Mrs. Gerald Leith 2EA, Snow McAuley (Assoc.).

The competition programme was enlarged by two contests to cater for v.h.f. enthusiasts. An additional hidden 144 Mc. Tx Hunt and a fox hunt were staged and proved popular.

To really appreciate the enjoyment and entertainment provided by the various competitors you should have been there, but ask any who were there about Norm Moody's epic drive across country where no car had ever been before to reach the hidden 144 Mc. or the enjoyment the boys get from chasing the fox (2AHH). Ask them about Cliff's (2XO) colour transparencies complete with taped commentary about background music, or about the delight of swapping experiences over a bowl of Jacaranda juice!

There were three major competitors, all won by Norm 2AHH—for the second time in succession!

Competition results were as follows:
1st: 144 Mc. Tx Hunt: 1st, 2AHH; 2nd, Norm Moody (Assoc.); 3rd, 4FP.

SOUTH AUSTRALIA

President: W. J. Dullin, VK3KK.
Secretary: B. W. Austin, VK3KA, Box 1334K, G.P.O., Adelaide. Telephone: UX 2681.

Meeting Night: Third Wednesday of each month at 17 Wymouth St., Adelaide.

Divisional Sub-Editor: E. C. Daw, VK3EP, P.O. Box 44, Gawler, S.A.

QSL Bureau: G. Laxon, VK3KH, 27 Belair Rd., West Mitcham, S.A. (Inwards & Outwards).

WESTERN AUSTRALIA

President: J. E. Rumble, VK8RU.
Secretary: J. E. Rumble, VK8RU, Box 1160G, G.P.O., Perth, W.A.

Meeting Night: Third Wednesday of month at 1111 Coleridge, Mounts Bay Rd.

Divisional Sub-Editor: E. J. R. Cowles, VK3EF, P.O. Box 11, Bencubbin, W.A.

QSL Bureau: Jim Rumble, VK8RU, Box 7318, G.P.O., Perth, W.A. (Inwards & Outwards).

TASMANIA

President: F. J. Evans, VK7PJ.
Secretary: M. Hurlbush, VK7MH, Box 371B, G.P.O., Hobart.

Meeting Night: First Wednesday of each month at W.I.A. Clubroom, 147 Liverpool St., Hobart.

Divisional Sub-Editor: W. W. Watson, VK7TY, 56 Brooker Ave., Moonah.

QSL Bureau: K. A. Johnston, VK7RX, 14 Tower Rd., Newtown.

Zone Correspondents: Northern: K. J. Briggs, VK7LX, 18 Melbourne St., Launceston; North Western: L. S. Edgington, VK7LS, 3 Jenner St., Wynyard.

PAPUA-NEW GUINEA

President: W. C. Ges, VK3WG.
Secretary: N. S. Young, VK3AMZ, C/o P. & T. Dept. of Posts, Port Moresby.

QSL Bureau: R. Lloyd, VK3ZAL, C/o Commonwealth Dept. Works, Port Moresby.

Gerry Challenger Memorial Contest: 1st, 3AHH, 79 points; 2nd, 2AFA, 55 points; 3rd, 3ALQ, 54 points.

Fox Hunt: 1st, 4FP, 2nd, Fred Reid (Assoc.). No. 1 Hunt: 1st, 2EV, 2nd, 2AHH (45 mins.); 2nd, 2XT, 90 mins.

Urunga Scramble 1st, 3AHH, 37 contacts; 2nd, 2AHH, 35 contacts; 3rd, 2AHH, 28 contacts.

Best miles per watt, 4FP, who worked G on 18 metres using 38 watts.

Long Blindfold 144 Mc. Tx Hunt: 1st, Mrs. Rod Pike (XYL 2ACU); 2nd, Mrs. Bailey (XYL 2AHL, Assoc.).

Gen. Blindfold 144 Mc. Tx Hunt: 1st, 4FP; 2nd, John Moody (Assoc.).

Lucky Draw Prize—Ladies: Mrs. Rod Pike (XYL 2ACU); Gents: 2XT.

Further details of the 1967 3ALQ.

Ladies' Guess the "Magnified Object": Mrs. Noel Hanson (XYL 2AHH).

The Gerry Challenger Contest and Urunga Scramble would not be possible without the co-operation of the various home stations and we do thank them for the help.

No Convention, of course, can be successful without a great deal of organising and "back room" workers. Cliff and Jean Metcalfe did a magnificent job in entertaining the ladies and organising open house "Do Me" back for the Saturday night get-together, where we were thrilled by Cliff's slides, views of past years, and the "Do Me" back for the last VKA Convention at Palm Beach provided by John 4FP and finished by comedy skits from John 4FP and Fred Reid did a splendid job in "planting the tx for the 144 Mc. Tx Hunt". In the main hunt they even brushed the road clear of their trucks, cut logs across the road and completely camouflaged their vehicle; a job well done. Bill 2AWG gave excellent help along with Rod 2ACU and John 2AHH, Assoc. member Norm Dash did a sterling job as Convention Secretary/Treasurer.

Due acknowledgement must be given to various donors who enhanced our prize list. These included Varley 2SP, United Radio Distributors, Amalgamated Wireless A/asia, Philips Electrical Industries, Mulard-Australia Pty. Ltd., Australian Electric Industries, W.I.A., Urunga businessmen Nev. Westcott, Radio Television and Hobbies, and two others who desire to remain anonymous. Bill 2AWG provided a case of bananas for the company.

The Urunga Progress Association provided an excellent supper following our usual Sunday prize-giving concert.

Now is the time to think about Urunga for 1968. This will give you a whole twelve months in which to make up 60 metres, portable or mobile gear, and a 2 metre "sniffer". Rod

Papua and New Guinea

VACANCIES

DEPARTMENT OF POSTS AND TELEGRAPHS

Supervising Technician (Radio) Grade III

E1542-E1992 p.a.

Qualifications: P.M.G. Senior Technician (Radio) or equivalent; extensive VHF and HF experience.

Duties: Install and maintain regional radio communication equipment; inspect stations; supervise technical staff.

Senior Technician (Radio)

(5 positions)

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Qualifications: Pass in P.M.G. Senior Technician (Radio) examination or equivalent.

Duties: In charge zone transmitting and receiving stations (transmitters 500 W power); MF/HF, CW and radio-telephone trunk and out-station services.

Technician (Radio)

(5 positions)

E1062-E1172 p.a.

Qualifications: Pass in P.M.G. Technician (Radio) examination or equivalent; HF and VHF experience desirable.

Duties: Assist in maintenance and operation zone and out-station radio equipment.

Supervising Technician (Telecommunications) Grade II

E1442-E1472 p.a.

Qualifications: P.M.G. Senior Technician (Telecommunications) or equivalent; automatic and manual telephone experience essential; supervisory ability.

Duties: Install and maintain exchange equipment in district; supervise staff.

GENERAL INFORMATION

SALARY: Rates quoted are actual for unmarried appointees and include allowances and adjustments. Additional Territorial allowance is paid as follows:—

	Unmarried	Married
	£	£
Less than 5 years' service	—	125
5 years' service but less than 7 — — —	25	150
7 years' service and over	50	175

ELIGIBILITY: Adult male British subjects under 45 years.

APPOINTMENT: Permanent subject to satisfactory probationary period.

LOCATION: Appointees are required to serve anywhere in the Territory.

ACCOMMODATION: Single quarters only available. Married accommodation not available under 18 months from date of appointment.

SEPARATION ALLOWANCE: Payable at discretion of Territory Administration; designed to compensate for added expense of married appointees obliged to maintain family outside Territory.

LEAVE: Three months after each 21 months in Territory. Additional 3 months' leave after each 6 years' service and 6 months' furlough after 20 years' service.

TAXATION: Income derived by residents of Territory from sources within Territory is not at present taxable under Commonwealth legislation.

FURTHER INFORMATION: An information Handbook on the Public Service of the Territory is available from the Department of Territories, Canberra or Sydney, or from any Commonwealth Public Service Inspector, District Employment Office or official country Post Office. Other enquiries to Department of Territories, Canberra (Phone U 0411, Ext. 28A).

APPLICATIONS: SUBMIT on prescribed form available from offices mentioned under "Further Information".

TO The Secretary, Department of Territories, Canberra, by 22nd June, 1957.

Senior Technician (Telecommunications)

E1232-E1292 p.a.

Qualifications: Pass P.M.G. Senior Technician (Telecommunications) examination or equivalent; automatic and manual telephone experience.

Duties: Install and maintain equipment at main exchange.

Technician (Telecommunications)

(5 positions)

E1062-E1172 p.a.

Qualifications: Pass P.M.G. Technician (Telecommunications) examination or equivalent; automatic and manual telephone experience.

Duties: Install and maintain equipment.

Senior Radio Telegraphist

E1232-E1292 p.a.

Qualifications: First Class Certificate of Proficiency (P.M.G.) or equivalent; ability transmit and receive at 25 w.p.m. and touch type 30 w.p.m.; two years' commercial experience desirable.

Line Foreman Grade I

E1112-E1142 p.a.

Qualifications: P.M.G. Line Foreman or equivalent; cable, conduit and aerial experience; leadership qualities.

Duties: Supervision staff in field, maintenance plant and equipment.

SACU will be the organizer so you can look forward to a really good Convention.

The Committee wishes to thank all those who attended and looks forward to seeing each one of you again in 1958.

HUNTER BRANCH

The April meeting of the Hunter Branch was held on 12th April at the University of Technology, Tighes Hill, with Lionel JCS in the Chair. Charles Jones, the minister and general secretary, presided. The meeting was a general discussion followed on such diverse subjects as 2 m x 2 m circuits, treatment of radio masts, 20 m x 2 m antenna design, I.V. antennae and slave antennae.

It was made known that our Vice-President Stewart had been allotted the sign of 2ZDP. All members of the VYL of Parley 2BP a speedy recovery from her illness. Roy ZRC, from the Upper Hunter, called on Ron JACS and met Ron's operators, Jack Hamilton and Syd Daniels. Roy is at present "rock-bound" on 7050 and 7110 Kc, but is building a v.f.o. and is on the lookout for local boys on 40 m x 40 m. Good to hear Bill 2PJ come on to work Urunga boys; he should be on more often now that winter is coming on. The Peace League has been turned most of Easter building harmonic proof fences, but he also managed to work Urunga Contest boys. The Peace League has been turned most of the local Hams out of doors as activity is practically nil. Harold 2ANA has set an example with his mobile/portable gear which quite a number of the local boys follow. Joe 2ANL has been doing some airborne v.h.f. but not on Ham bands. Well known? Mr. McLean has been in the field recently and called on Bill 2ZL. Bill showed George how to play trains. Ernie 2FP has got his 10 m x 10 m parking and is now fixing up a monitor. Bob 2AQR has acquired a Harvey Wells' v.f.o., but for the present is still using the Gelcoo. Jim 2EC has been fishing at Urunga but does not take portable Norm 2ANA, who had been in mothballs, has made a welcome re-appearance on 20 m x 20 m to work the S.A.M.C. net.

The June meeting of the Hunter Branch will be held at the University of Technology, Tighes Hill, at 8 p.m. on 14th June.

SOUTH WESTERN ZONE

My spies have not given me much information this month for the holes. Your scribe, I mean, has not seen Adam or John or Griffith over Easter. An enjoyable time was had by all. We visited Stewart 2PL who, with his wife, had been engaged in the business of winemaking. Of course we had to be the same. We next visited Darcy McMahon, with Roland Grievous, who was kept busy watching the boys. Darcy is an electrician, and wire is scarce at Coolamon, or should I say west Hill!

Your scribe also had a visit over Easter from Eric and Peg, the 2DY's, who arrived in their new pink and black Spacemaster, very L.B. Eric made the remark that he now has to be Coolamon to talk to 2AJO, as that elusive binkie is chasing DX on 21 Mc. Cheer up, Eric, now we have passed the 100 countries we will probably see back to the 200 countries band, occasionally. Have seen Alf 2BW, at Wagga, a few times lately; Alf is a very busy man. How about relaxing on the bands some time?

Zone members will be advised of the date for the preliminary meeting at Coolamon for this year's Convention 24.0.

COALFIELDS AND LAKES

Old timer, Ernie 2AEZ, is active quite regularly on 14 Mc. and getting his share of the good DX too: using a new rig, v.l. proofed. Major 2RU is a regular from Geelong. Lan 2AMU is re-building a new rig, v.l. proofed, and will be going again before long.

The Upper Hunter boys have not been contacted, but they seem to be sending in their notes and hope they continue to do so.

Harry 2YL is only Coalfields station active, working mainly 14 and 21 Mc. where conditions have been quite good and has managed to get post-war DX up to 204 countries.

VICTORIA

The general meeting held at the Royal Melbourne Technical College on 1st May was the first to be presided over by our new President Fred Ball 1Y3Y. Fred was introduced to the meeting by the retiring President, Gordon 2AMU. At the meeting the President presented his appreciation of the striding service which Gordon (aided and abetted by his 2YL) has given the Division during his five years as President of the Division. It is a tribute to his ability and popularity that it was at his own request he relinquished the post, not ours.

and it is hoped that we have made it abundantly clear to him that the Division, and that matter the Institute as a whole, is very appreciative of a job well done. Fred admits that he has a very high standard to live up to following Gordon, but he has already proved himself to be a worthy successor.

The lecture for the evening was given by Mr. Markham, of the Australian Broadcasting Commission, his subject being "Outside Broadcast Television Work" (OB's to the initiated). Mr. Markham is particularly concerned with the production side of OB's, and has had considerable experience, both here and overseas, in this particular field. His description of the various projects he has been associated with was most entertaining and at the same time very enlightening, particularly if one has ever tried to visualise what goes on behind the scenes on OB's. OB's are, of course, covered by field units consisting of, say, three cameras and a control van, and as these units are limited in scope by the length of their connecting cables, etc., it can be seen that many units are required on the larger projects. In locating a unit, camera and control van have first to be sited at the required position, and then a power supply, telephone circuits and microphone links to base must follow. When a number of units are covering a project, such as a golf match, to quote an example, where distances to be covered are rather great, the complexities of the over all set-up can be quite considerable. At the present time relays are carried out by means of co-ax cable and microwave links, and where these are not available, by means of aircraft equipped with receiving and transmitting gear. As techniques develop it should be possible to achieve worldwide relay of tv. programmes. However, colour tv. is still around the corner.

The rapid attention given to the speaker by his audience, and the number and quality of questions fired at him at the conclusion of the lecture would, I am sure, be just reward for his efforts in providing such a well planned and extremely interesting address.

If I am any judge the 55 members who attended the meeting were very pleased they had decided to venture forth on such a cold and miserable night.

The only visitor to the meeting was Bob 2IC, who is President of the South Western Zone. Bob, at the invitation of the President, gave a resume of the recent Zone Convention at Geelong.

Federal Councillor, David Wardlaw (2ADW), our representative at the Easter Federal Council Convention, also gave a brief report on that meeting, and a vote of thanks was passed to him for his efforts on behalf of the zone. As the meeting lasted from the Friday until Monday, some

appreciation can be gauged of what is involved in these all important conferences.

A meeting which will concern us all even more vitally is the Telecommunications Conference to be held at Melbourne in 1959. In the past we have relied on a proxy to put the VKC case, but for obvious reasons it would be far more satisfactory if we could send our own representative. As the Conference lasts for some months and is on the other side of the world from us, this matter is no mean task for an organisation such as ours. Perhaps someone has an idea tucked away in his mind as to how this can be done—now is the time to give forth.

The Victorian group of the S.W.J. reports that it has had no response as yet to its repeated requests for opportunities to visit Ham shacks. How about it chaps? Ian Hunt, Secretary of the group, is attending to offers.

It was reported to the meeting by 2ZED that a group of Victorian Amateurs will be participating, as Amateurs, in the tracking of the world satellites to be launched during the Geophysical Year. This shows promise of being most interesting to the participants and should be a very practical contribution from the Amateur fraternity. This group would be very pleased to hear from others interested in this work.

Pirates have been out of the news of late, so if anyone is keen to study this form of piracy, one is to be found on 14 Mc. using the call of 800, Eric, the rightful owner, would be pleased to meet this gentleman? and compare notes.

The following were admitted as full members of the Division: George 2ATY (2AOM) and B. P. Everett (2ADE).

WESTERN ZONE

George 3GN, whom we have not heard for some time, will soon be on the air again. He has built a new shack with a new rig to go with it. Rig consists of a Gelcoo driving a separate final on all bands. Bob 3ARM has recently installed an a.c. power supply, so I guess in the future he will find operating much easier than having to rely on batteries. Herb 3NY has made a trip to Adelaide and while there paid a visit to the Ham section of an Exhibition which was held last month.

Trav 3ATR has been chasing that rare DX with plenty of success. We have not been hearing much of him on the lower frequencies. Merv 2AFO has been busy re-painting his home, both inside and out, using a modern colour scheme: he has made an extra good job. This rig, in which he is using a type 5 power supply, is built in the rock and panel style using a pair of 607's as the final for DX bands, and a single one for lower frequencies.

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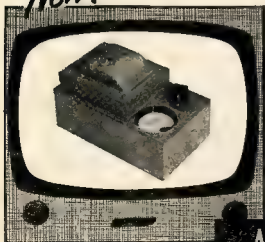
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